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WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER	
PIAZZA CORCORAN, GLADYS JOSEFINA	
ART UNIT	PAPER NUMBER
1733	7

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

CLO 7

Office Action Summary	Application No.	Applicant(s)	
	09/831,453	OKUDA ET AL.	
	Examiner	Art Unit	
	Gladys J Piazza Corcoran	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 September 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-61* is/are pending in the application.

4a) Of the above claim(s) *2,7-11 and 17-61* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6 and 12-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I Species I, claims 1, 3-6, 12-16 in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 2, 7-11, 17-61 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II, Species II-VI, A, B, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

Drawings

3. Figure 13 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 3 is objected to because of the following informalities: Claim 3, line 2 recites "into a shapes", which should be --into a shape--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3-6, 12-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 3 recites the limitation "the applying position" in lines 3, 5, 6. There is insufficient antecedent basis for this limitation in the claim. It is suggested to amend the first occurrence to --an applying position--.

8. Claim 3 recites the limitation "the work" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is suggested to amend to --a work--.

9. Claim 3 recites the limitation "or the foamable material" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is suggested to delete the limitation as it pertains to a non-elected Species. Rejoinder will be considered upon indication of allowable subject matter and the basis thereof.

10. Claim 3 recites the limitation "the streams" in line 5. There is insufficient antecedent basis for this limitation in the claim. It is suggested to amend to --the gas and material streams--.

11. Claim 3 is unclear by reciting "by applying the work with the hollow bead or the foamable material onto the applying position while transferring the streams along the applying position". It is suggested to recite, --by applying the hollow bead onto a work in the applying position while translating the gas and material streams along the applying position--.

12. Claim 4 is unclear by reciting "the hollow bead applied and molded are tackied or adhesived to the work by using the highly viscous material or the foamable material has

an tackinessly or adhesive property." It is suggested to amend to --the hollow bead applied and molded is tacky or adhesive to the work by the highly viscous material having a tacky or adhesive property--. It is suggested to delete the limitation of the foamable material as it pertains to a non-elected Species. Rejoinder will be considered upon indication of allowable subject matter and the basis thereof.

13. Claim 5 recites the limitation "or the foamable material stream" in lines 9, 11. There is insufficient antecedent basis for this limitation in the claim. It is suggested to delete the limitation as it pertains to a non-elected Species. Rejoinder will be considered upon indication of allowable subject matter and the basis thereof.

14. Claim 6 recites the limitation "or the foamable material stream" in lines 9, 11, 15-16. There is insufficient antecedent basis for this limitation in the claim. It is suggested to delete the limitation as it pertains to a non-elected Species. Rejoinder will be considered upon indication of allowable subject matter and the basis thereof.

15. Claim 12 recites the limitation "or the foamed bead" in line 7. There is insufficient antecedent basis for this limitation in the claim. It is suggested to delete the limitation as it pertains to a non-elected Species. Rejoinder will be considered upon indication of allowable subject matter and the basis thereof.

16. Claim 4 is unclear by reciting, "it is decided to automatically determine" in line 2 and "by desired picking up" in line 3. It is suggested to amend to, --further automatically determining--, --by picking up--.

17. Claim 6 is unclear by reciting "while transferring the nozzles". It is suggested to amend to --while translating the nozzles--.

18. Claim 12 is unclear by reciting "to be transferable to a desired position". It is suggested to amend to --to be translated to a desired position--.

19. Claim 16 recites the limitation "or the foamed bead" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is suggested to delete the limitation as it pertains to a non-elected Species. Rejoinder will be considered upon indication of allowable subject matter and the basis thereof.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

22. Claims 1, 3, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trevathan et al. (US Patent No. 5,089,190) in view of DeFillipi et al. (US Patent No. 5,979,794).

Trevathan discloses a bead molding method for molding a hollow bead (column 3, lines 30-45) from a highly viscous material (column 4, lines 20-25) that is fluid in the form of a stream in a first flow region (from the nozzle to the work piece) and can retain a shape into which it is molded in a second flow region (on the work piece) with a gas stream forming step for forming a gas stream in one direction (zone 57), a material stream forming step for forming a highly viscous material stream flowing in the first flow region within an outer peripheral space about and enclosing the gas stream which renders the highly viscous material stream fluid within the outer peripheral space about and enclosing the gas stream (pressurized solution 52).

As to the limitation of a bead molding step for molding the hollow bead into an irregular shape by reducing the flow speed of the highly viscous material stream from the high (first) speed flow to the low (second) speed flow, while Trevathan does not specifically discloses the speeds of the two flow regions, it is known in the art to provide such high and low speed flows when applying highly viscous materials to work pieces. For example, DeFillipi discloses dispensing highly viscous fluids in an assembly line where "streaming" applies the fluid in a first high speed flow region (material flow from the nozzle) and then in a second slow speed flow region (lateral velocity) in order to maintain constant bead uniformity at a high speed (column 1, lines 1-42, column 2, lines 8-18, column 4, line 63 to column 5, line 30, column 5, lines 58-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming a bead of highly viscous material as shown in Trevathan by molding the bead be reducing the speed form a high speed flow region to a slow speed flow

region in order to form the bead uniformly at a high speed as known in the art and exemplified by DeFillipi.

As to claim 3, the bead molding step molds the hollow bead into a shape corresponding to and following the shape of an applying position by applying a work with the hollow bead onto the applying position while transferring the stream along the applying position (the bead is used in a form in place gasket where the bead is extruded on a substrate that is desired to be sealed with another surface, thus it is considered to be extruded along the substrate to form the gasket; column 6, lines 3-16). As to claim 4, the hollow bead applied and molded is tacky or adhesive to the work by the highly viscous material having a tacky or adhesive property (the extruded material is extruded onto a substrate and bonded thereto).

23. Claims 1, 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trevathan et al. in view of DeFillipi et al. as set forth above and further in view of Kessler (US Patent No. 4,434,250).

Although the reference Trevathan as cited above fully meets the limitations of the claims pertaining to the gas stream forming step as currently written, it appears from Applicant's specification that the gas stream is a stream flowing through the nozzle and not a gas stream formed by a pressure drop through the nozzle as disclosed by Trevathan. Consequently, the reference Kessler is presented in order to more closely meet Applicant's Invention and to further the prosecution of the Application.

Kessler shows it is known in the art to form hollow tubes of foamed material by extruding the material through a nozzle with an inner gas stream flowing through the

nozzle in order to extrude the tube with uniform wall thickness (column 1, lines 1-22, 31-58). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the method of forming a hollow bead as shown by Trevathan and DeFillipi by providing a nozzle with a gas stream as is known in the art in order to form the hollow bead with a uniform wall thickness and as an equivalent alternative in the art as exemplified by Kessler.

As to claims 5 and 6, Kessler discloses a discharging device including an inner nozzle elongated at a tip portion (5) and an outer nozzle (2) elongated about and enclosing an outer periphery of the inner nozzle where the gas stream forming step forms the gas stream in the one direction by discharging gases from the inner nozzle and the material stream forming step forms the highly viscous material stream in the same direction of the gas stream about and enclosing the gas stream by discharging the highly viscous material from the outer nozzle.

As to claim 6, the bead molding step molds a hollow bead into a shape corresponding to and following the shape of the applying position by discharging the highly viscous material stream toward the work from the inner nozzle and the outer nozzle in the outer peripheral space of the gas stream while transferring the nozzle in a locus corresponding to and following the shape of the applying position (the method in Trevathan discloses form in place gasket application which is considered to be applying the material through the nozzle onto a substrate along the applying position).

24. Claims 12, 13, 15, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trevathan et al. in view of DeFillipi et al. and Kessler as set forth above and further in view of Hayashi et al. (US Patent No. 4,809,885).

As to claim 12, Trevathan discloses form in place gasket application which is considered to be applying the material through the nozzle onto a substrate along the applying position but does not particularly discloses the specifics on how the nozzle applies the material on the work. It is well known in the art to provide a discharging device mounted on a manipulator disposed to be transferable to a desired position in response to a control signal and the bead molding step for applying and molding the hollow bead automatically on the applying position of a plurality of work members being carried one after another on a manufacturing line by controlling a movement of the discharging device by means of the manipulator in order to apply beads onto substrates in a manufacturing line. For example, DeFillipi discloses it is known to provide beads of highly viscous material on substrates by providing the discharging device on a manipulator (robot arm) to transfer the bead on the substrate in the desired location (column 1, lines 10-18). Hayashi also discloses providing beads of highly viscous material on a manipulator (robot) to transfer bead on the substrate in the desired location in response to a control signal (column 1, lines 63-68). As to claim 13, an actual applying position of the bead applied by the discharging device is detected and the manipulator is controlled so as to substantially bring the actual applying position thereof into agreement with a predetermined target applying position (column 1, lines 63-68). It would have been obvious to one of ordinary skill in the art at the time of the

invention to practice the method of forming a bead on a substrate as shown by Trevathan, DeFillipi and Kessler by providing the discharging unit on a manipulator that is controlled in order to apply the bead to the applying position on the substrate as is well known in the art and exemplified by DeFillipi and Hayashi.

As to claims 15 and 16, the work member in Trevathan is an opening and closing member for closing a predetermined opening and the bead is applied near the edge portion for sealing a gap (gasket on a substrate for sealing on a surface; column 6, lines 3-16).

25. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Trevathan et al. in view of DeFillipi et al., Kessler and Hayashi et al. as set forth above and further in view of Batchedler et al (US Patent No. 5,402,351).

Hayashi discloses detecting the bead application in order to control the movement of the bead application, however does not particularly disclose the detecting means. It is known in the art to automatically determining whether the bead is applied and molded in a favorable fashion by picking up an image of the bead applied and molded on the applying position and comparing the picked-up image of the bead with a reference image of a bead applied and molded in a predetermined favorable fashion. For example, Batchelder shows a method of controlling the movement of an extruding nozzle by picking up an image of the bead applied and comparing to a reference image of a bead applied in a favorable fashion (column 1, lines 15-20; column 4, lines 40-56; column 5, lines 43-60; column 7, lines 55-65; column 8, lines 41-61; column 11, lines 12-25; column 13, line 53-68). It would have been obvious to one of ordinary skill in the

art at the time of the invention to provide the method as shown by Trevathan, DeFillipi, Kessler and Hayashi with the step of picking up an image of the bead to compare with a reference image as is known in the art in order to control the application of the bead and further exemplified by Batchelder.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gladys J Piazza Corcoran whose telephone number is (703) 305-1271. The examiner can normally be reached on M-F 8am-5:30pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gladys J Piazza Corcoran
Examiner
Art Unit 1733

GJPC